ADDENDUM

Project Name: Utility Tunnel Extension
DFCM Project #04245730
Project Designation: SUU University Cedar City, Utah

Addendum No.: One (1)

Date: April 15, 2005

From: WHW ENGINEERING INC.
1354 EAST 3300 SOUTH SUITE 200
SALT LAKE CITY, UTAH 84106

To: VALLEY DESIGN & CONSTRUCTION
825 EAST 3000 NORTH, SUITE D
LAYTON UTAH 84041

GARFF CONSTRUCTION
2820 WEST 500 SOUTH
SALT LAKE CITY, UTAH 84104

McCLOUGH ENGINEERING & CONSTRUCTION
1567 EAST STRATFORD AVENUE
SALT LAKE CITY, UTAH 84106

KOH MECHANICAL
1273 WEST 12400 SOUTH
RIVERTON, UTAH 84065

BARCLAY MECHANICAL
595 WEST 100 NORTH
MANTI, UTAH 84642

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated **March 31, 2005** and Addendum Number **1** dated **April 15, 2005**, as noted below. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

This Addendum consists of **5** page(s) and the attached drawing(s), **12** Sheet(s).

I - CHANGES TO PRIOR ADDENDA:

Item I-1. N/A

II - CHANGES TO BIDDING REQUIREMENTS:

Item II-1. Bid date was extended one (1) day, from Wednesday April 20 @ 3:00 p.m. to Thursday, April 21 @ 2:30 p.m.

III - CHANGES TO AGREEMENT & OTHER CONTRACT FORMS:

Item III-1. N/A

IV - CHANGES TO CONDITIONS OF THE CONTRACT:

Item IV-1. N/A

V - CHANGES TO SPECIFICATIONS:

Item V-1. Specification Section 03300 1.5.D. shall be changed to read as follows:

"Concrete Testing Service: Owner shall engage a qualified independent testing agency to perform material evaluation tests and to design concrete mixtures. This contractor shall coordinate all work with the owner's designated testing service."

Item V-2. Specification Section 03300 3.16.A. shall be changed to read as follows:

"Testing and Inspecting: Owner shall engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports. This contractor shall coordinate all inspections and tests as required by this specification section with the owner's designated testing service."

Item V-3. Specification Section 15010 1.7 add items C and D. Item C and D shall read as follows:

C. "Site Enclosure Fence: When excavation begins furnished and install site enclosure fence in a manner that will prevent people etc from easily entering site except by entrance gates. Extent of fence is as required to enclose entire project site or portion determined sufficient to accommodate construction operations."

D. "Barricades, Warning Signs and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting."

Item V-4. Specification Section 15010 1.11. Add paragraph B, Item B shall read as follows:

B. "Power and water source shall be from the business building. Coordinate with the University for points of connections.

VI - CHANGES TO DRAWINGS:

Item VI-1. The removal of trees will be deleted from the contract. The removal will be by Southern Utah University. Delete any notes on sheets LS101, LS501, and SD101 referring to tree removal.

Item VI-2. The contract for site visits on the campus prior to bidding is Dennis Geary the utilities service manager, at 351 West University Boulevard, Cedar City, Utah 84720. Office: 1.435.586.7888, Cell: 1.435.559.1854, Email: Geary@suu.edu.

Item VI-3. There will be only one access route to the site. The route will be from 200 South Street in front and west of the Music and ELC Buildings.

Item VI-4. Fencing for the project will be provided by the contractor and coordinated with the University. Fencing shall be to keep the students, faculty, and the public from the excavation and construction. See Item V-3.

Item VI-5. The source for construction water and power shall be the Business Building. Coordinate with Dennis Geary from the University for source.

Item VI-6. The lawn area south of the Business Building and west of the ELC Building may be used for staging and the stock piling of dirt as long as this area after construction is cleaned up and the sod replaced if required. There are some areas on west campus that may be used if approved and coordinated with the University. The lawn area however should be sufficient for stock piling etc.

Item VI-7. The soil report does not indicate any large rocks in their 8 borings however, Contractor should guard himself accordingly. See soil report and the site plan plate 1 for locations of the eight boring sites in conjunction with the location of the new tunnel.

Item VI-8. The pre-bid attendance roll is available on the DFCM's website - http://dfcm.utah.gov.

Item VI-9. A copy of the soils report in on the DFCM's website. See VI-8 for address.

Item VI-10. Clarification: This project includes 6 manholes, one existing and five new with the following descriptions

MANHOLE #1: **Existing** - the east wall will be saw cut and removed for the connection of the new tunnel. New steam and condensate piping shall connect to existing steam and condensate located in existing manhole #1. See attached details C5 and section C3 sheet ME502. Provide new ladder from new tunnel floor to bottom of existing manhole #1.

MANHOLE #2: This is a **new** 10' x 10' concrete manhole. See detail D5/ME503 and profile sheet CS101 for depth. All piping between MH #1 and MH #2 is **new**.

MANHOLE #3: This is a **new** 10' x 10' concrete manhole. See details A5/ME502 and profile sheet CS101 for depth. All piping between MH #2 and MH #3 is **new**.

MANHOLE #4: This is a **new** 8' x 8' concrete manhole. See detail C5/ME503 and profile sheet CS101 for depth. All piping between MH #3 and MH #4 is **new**. Connections between new tunnel takes place at

this manhole and existing ELC Building tunnel. See B3/ME101 for details.

MANHOLE #5: This is a **new** 10' x 10' concrete manhole. See detail A4/ME503 and profile sheet CS102 for depth. All piping between MH #2 and MH #3 is **new**. See attached drawing.

MANHOLE #6: This is a **new** 8' x 8' concrete manhole. See detail C5/ME503 and profile sheet CS102 for depth. All piping between MH #5 and MH #6 is **new**. Connections between new tunnel and piping and existing Music Building tunnel and piping takes place at this manhole. See B5/ME101 for details. See attached drawing.

Item VI-11. Drawing MS101 - delete notes 3 and 9 from manhole #2 and symbol for capped tunnel. Notes 3 and 9 shall still remain for manhole #3.

Item VI-12. Drawing MS101 - note 10 refers to existing building pipe tunnels that remain and shall connect to **new** manholes #4 and #6. Existing pipe tunnel connection to manhole #4 requires modifications. See attached drawings C5/ME503.

Item VI-13. Drawing ME502 detail C3 add to note in tunnel.

A. New 7' diam. CSP tunnel " **and piping**".
B. Provide ladder with hand hold extending 3'-0" above new tunnel floor. Piping is new from the new tunnel to connections in the existing mains. See attached drawing C3/ME502.

Item VI-14. Drawing ME502 detail D5 - new tunnel section is looking west between MH #1 and MH #2, looking north between MH #3 and MH #2 and looking north between MH #5 and MH #2.

Item VI-15. Drawing ME502 detail C5 see attached drawing C5/ME502 for clarification.

Item VI-16. Drawing ME502 detail A3 and section A are located at each connection of tunnel section.

Item VI-17. Drawing ME 503 detail section D1 is a typical section for the backfill. The 2'-0" structural fill under the tunnel is typical throughout.

Item VI-18. Drawing ME504 detail A5 - this detail is for the termination of the new tunnel for future connection and only applies at manhole #3. See attached drawing A5/ME504 for update.

Item VI-19. Drawing ME504 detail C5 - detail applies to connection between new tunnel and manhole #1.

Item VI-20. Drawing ME504 details C1 and D5 apply to tunnel to manhole connections - typical. See attached drawings C1/ME504 and D5/ME504.

Item VI-21. Drawing ME504 see attached drawings for update of existing details A2, A5, C1, D1 and D5.

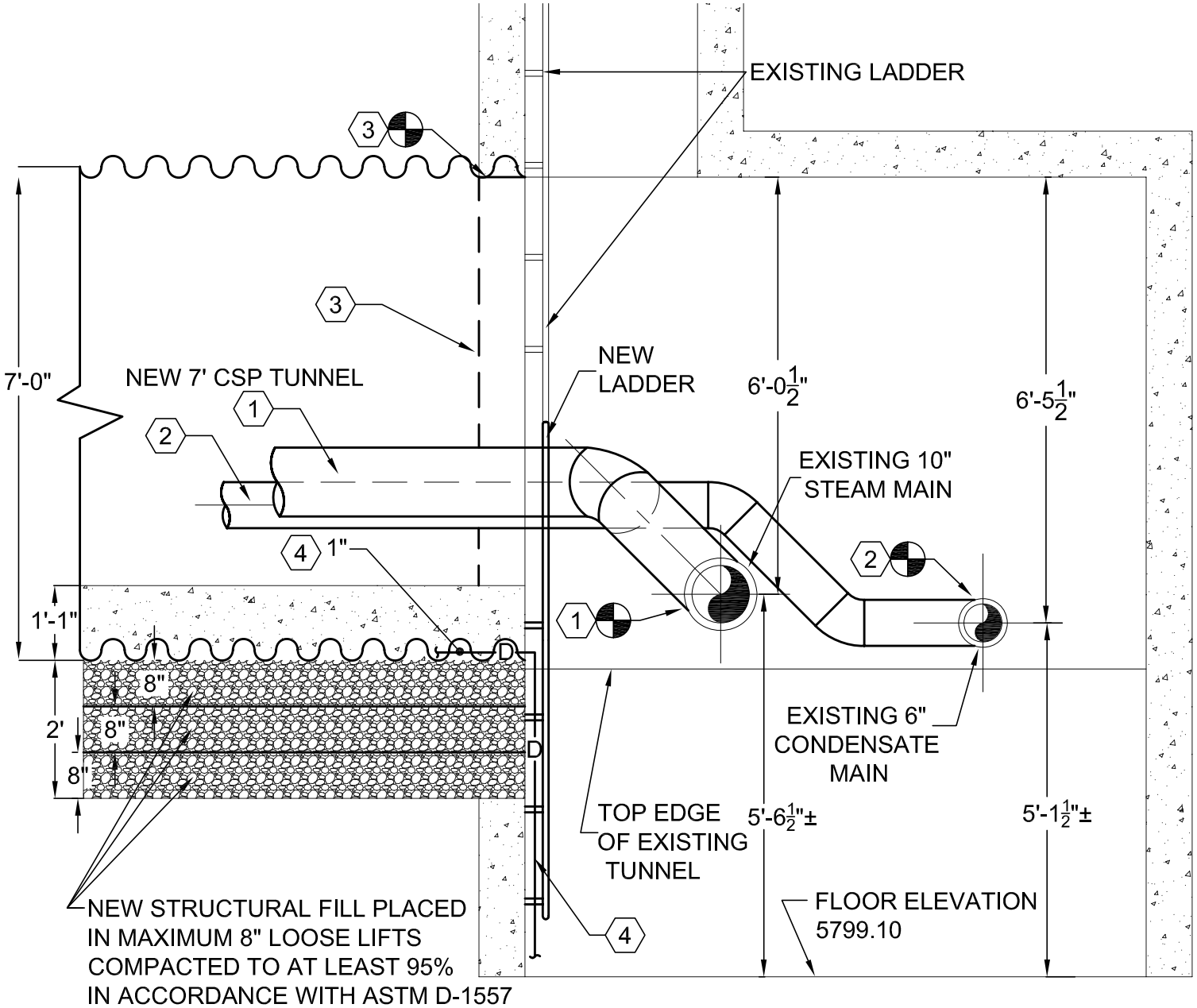
Item VI-22. Drawing MS101 delete note 19 at manholes #3 and #5. Only note 9 will apply for manhole #3.

Item VI-23. Drawing ME504 delete detail D3.

Item VI-24. Detail D1/ME503 add geotextile fabric between the gravel and the structural fill to keep the gravel from embedding in the fill. Provide a 6" diam. PVC perforated pipe below tunnels and a minimum of 12' -0" away from centerline of tunnel. See attached drawing D1/ME503.

Item VI-25. All concrete manholes shall have a matrix drainage system product installed on the outside walls of the manholes. This product is to provide added protection for waterproofing materials and enhance waterproofing performance. The product shall be a dimple raised, molded polystyrene sheet bonded to high strength polypropylene fabric. This geocomposite allows the passage of moisture throughout the fabric while preventing fine soils from entering the drainage channel. The drainage system product shall be unrolled with the flat, core side against the wall waterproofing material. A primer shall be used as an adhesive compatible with this product. The flat side core lip is overlapped to provide a continuous drainage layer. Extra filer fabric is provided at the edges for overlapping with the next sheet. Drainage system shall be MEL-DRAIN manufactured by W. R. Meadows or equal. Adhesive product shall be W.R. Meadows' Pointing Mastic or MEL-PRIME Solvent-Base VOC Primer, or equal. One source of availability locally is Intermountain Concrete Specialties.

END of ADDENDUM



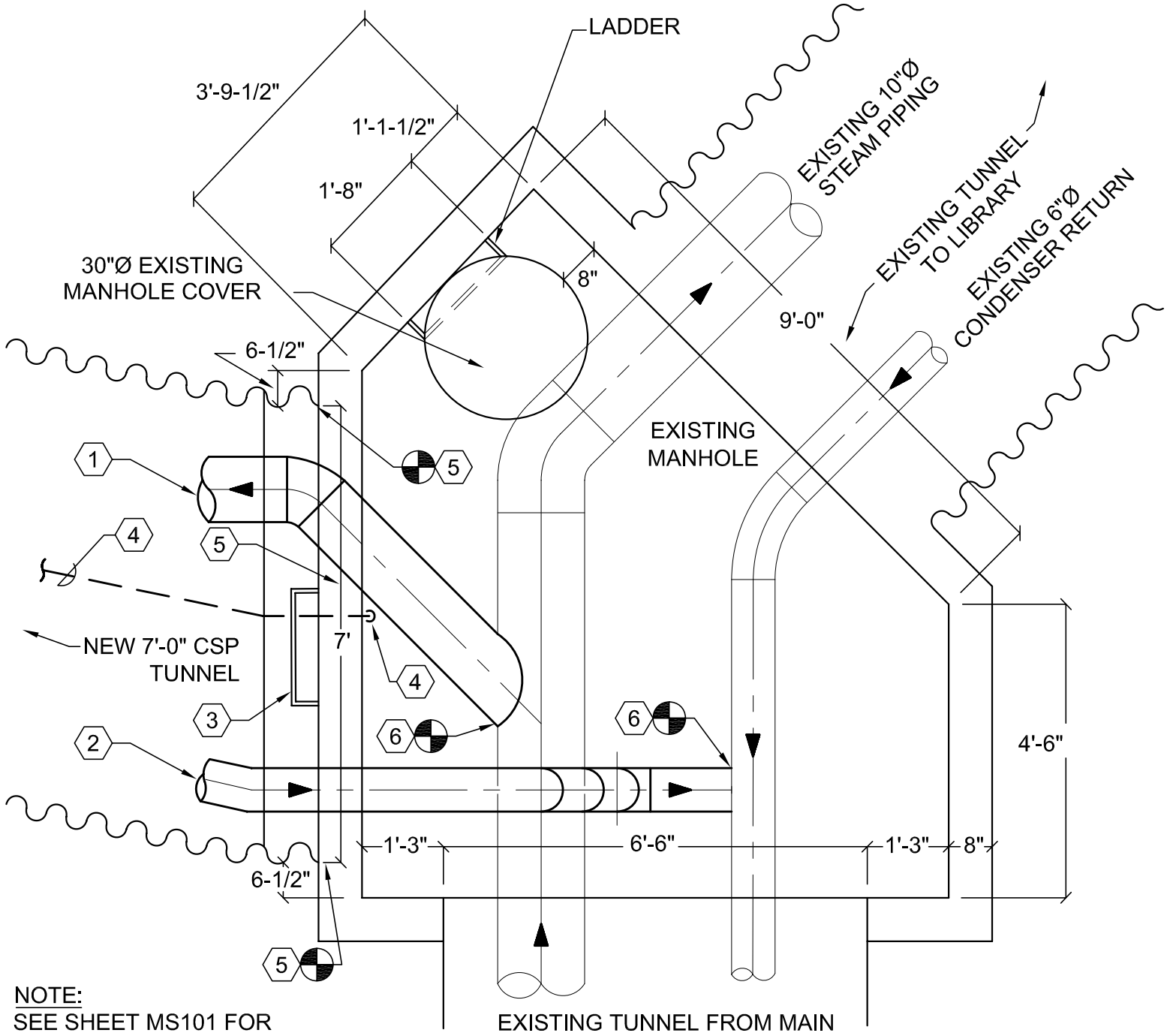
SECTION LOOKING SOUTH CONNECTION TO EXISTING MANHOLE #1

C3

SCALE: NONE

SHEET NOTES:

1. NEW 6"Ø STEAM PIPING, CONNECT TO EXISTING 10"Ø STEAM MAIN.
2. NEW 4"Ø CONDENSATE RETURN, CONNECT TO EXISTINF 6"Ø CONDENSATE RETURN.
3. SAW CUT EXISTING WALL OF EXISTING MANHOLE #1 FOR CONNECTION OF NEW 7'-0" OD CSP TUNNEL.
4. 1" PVC DRAIN PIPING, EXTEND TO EXISTING FLOOR DRAIN.

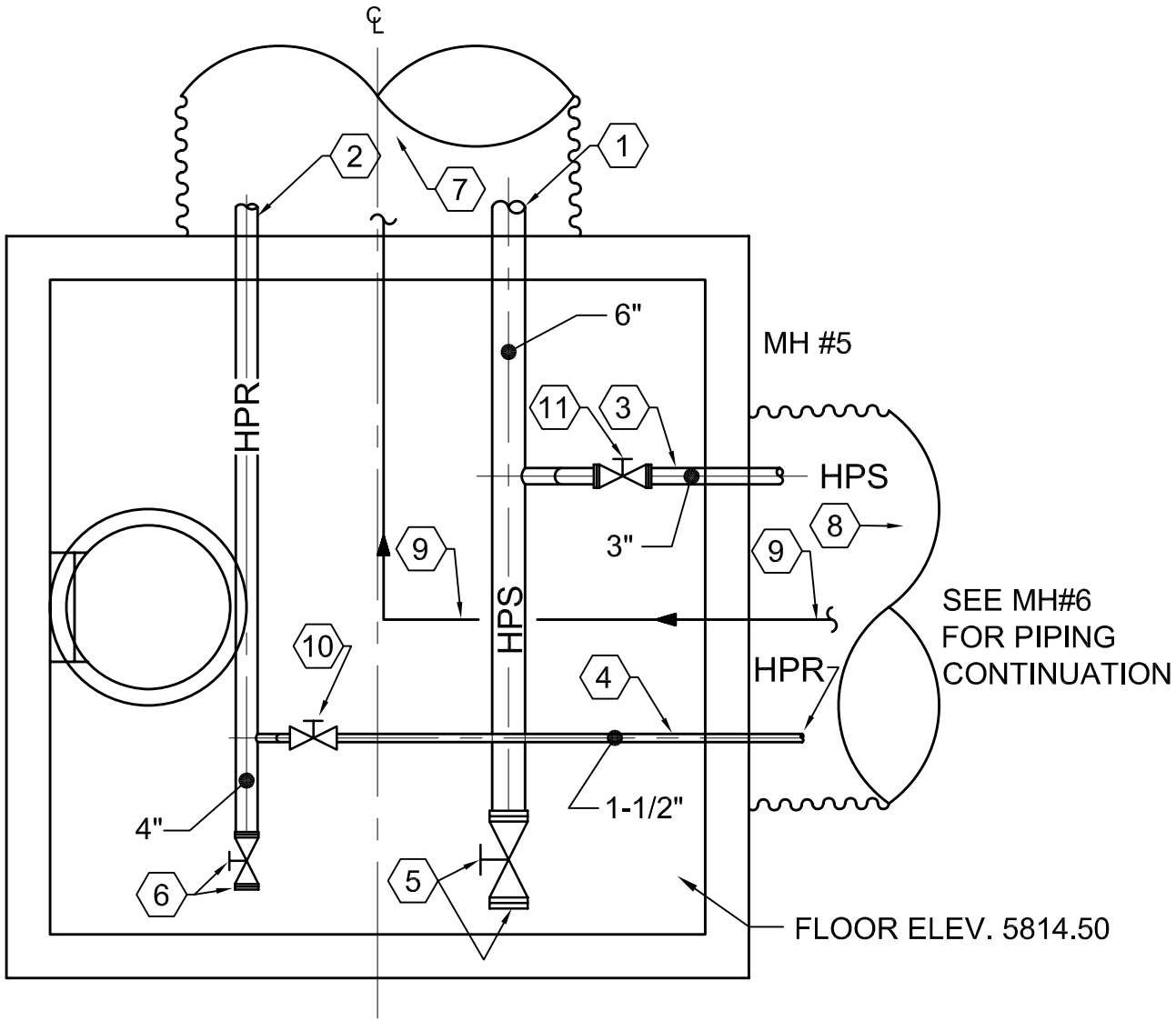


C5 EXISTING MANHOLE PLAN & NEW TUNNEL CONNECTION

SCALE: NONE

SHEET NOTES:

1. NEW 6" STEAM SUPPLY
2. NEW 4" CONDENSATE RETURN
3. NEW LADDER SEE DETAIL C3/ME504
4. 1"Ø PVC DRAIN LINE IN BOTTOM OF TUNNEL, DROP DOWN WALL TO EXISTING DRAIN.
5. SAW CUT EXISTING MANHOLE #1 WALL AND REMOVE FOR NEW TUNNEL. SEE ATTACHED DRAWING C3/ME502.
6. NEW PIPING CONNECTIONS.



N

A4

MANHOLE #5 PIPING PLAN

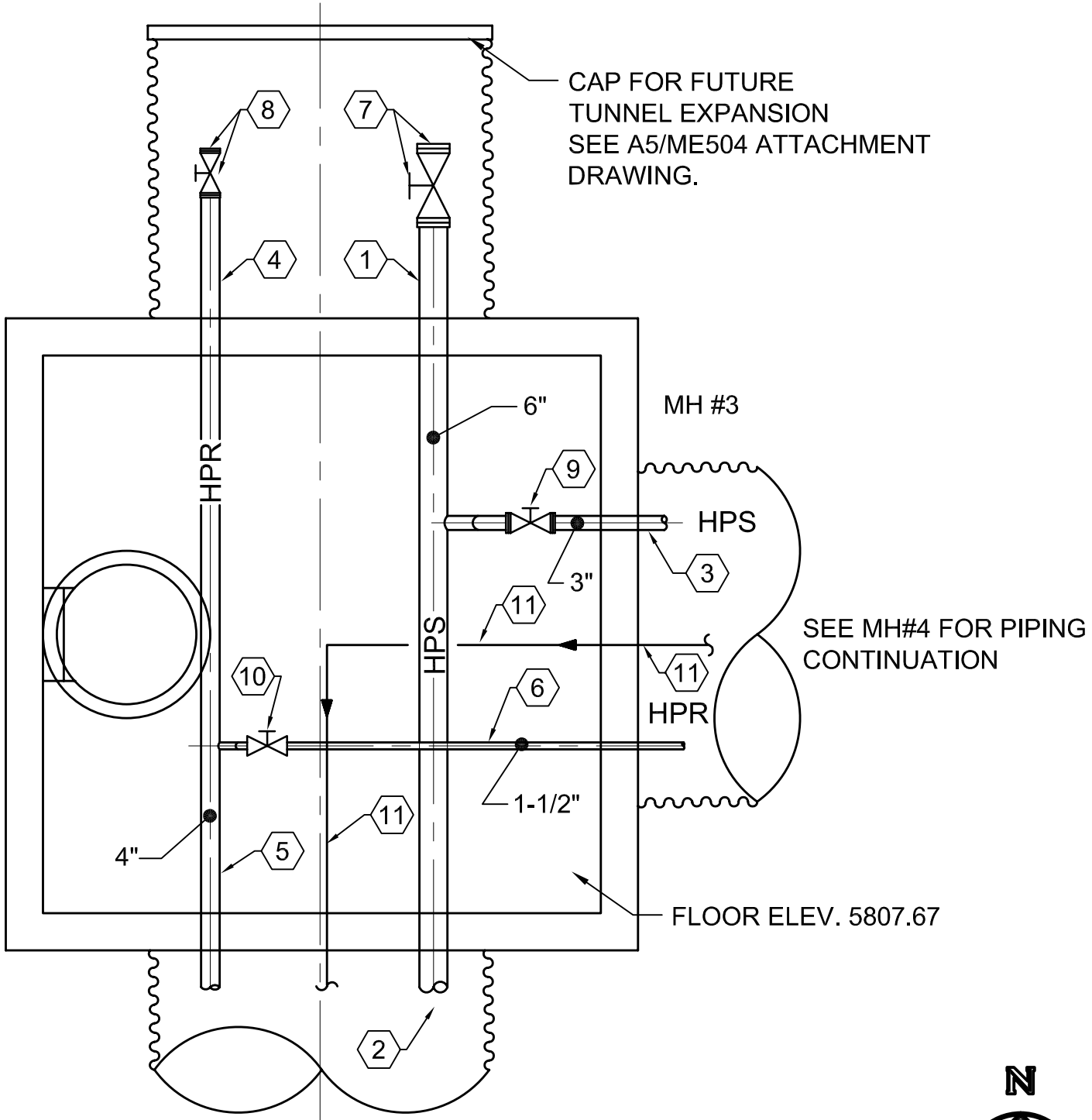
SCALE: 3/8" = 1'-0"

SHEET NOTES:

1. NEW 6" HPS TO MANHOLE #2.
2. NEW 4" HPR TO MANHOLE #2.
3. NEW 3" HPS TO MANHOLE #6 AND MUSIC BUILDING.
4. NEW 1-1/2" HPR FROM MANHOLE #6 TO AND MUSIC BUILDING.
5. NEW 6" FLANGED GATE VALVE WITH BLIND FLANGE-STEM UP.
6. NEW 4" FLANGED GATE VALVE WITH BLIND FLANGE-STEM UP.
7. NEW 7'-0" CSP TUNNEL TO MANHOLE #2.
8. NEW 7'-0" CSP TUNNEL TO MANHOLE #6.
9. 1"Ø PVC DRAIN PIPING.
10. 1-1/2" SCREWED GATE VALVE-STEM UP.
11. 3" FLANGED GATE VALVE-STEM UP.

MECHANICAL ADDENDUM #1

ME503



SHEET NOTES:

1. NEW 6" HPS TO END CAP.
2. NEW 6" HPS TO MANHOLE #2.
3. NEW 3" HPS TO MANHOLE #4 AND ELC BUILDING.
4. NEW 4" HPR TO END CAP.
5. NEW 4" HPR TO MANHOLE #2.
6. NEW 1-1/2" HPR FROM MANHOLE #4 AND ELC BUILDING.
7. NEW 6" FLANGED GATE VALVE WITH BLIND FLANGE-STEM UP.
8. NEW 4" FLANGED GATE VALVE WITH BLIND FLANGE-STEM UP.
9. NEW 3" FLANGED GATE VALVE-STEM UP.
10. NEW 1-1/2" SCREWED GATE VALVE-STEM UP.
11. 1"Ø PVC DRAIN PIPING.

A5

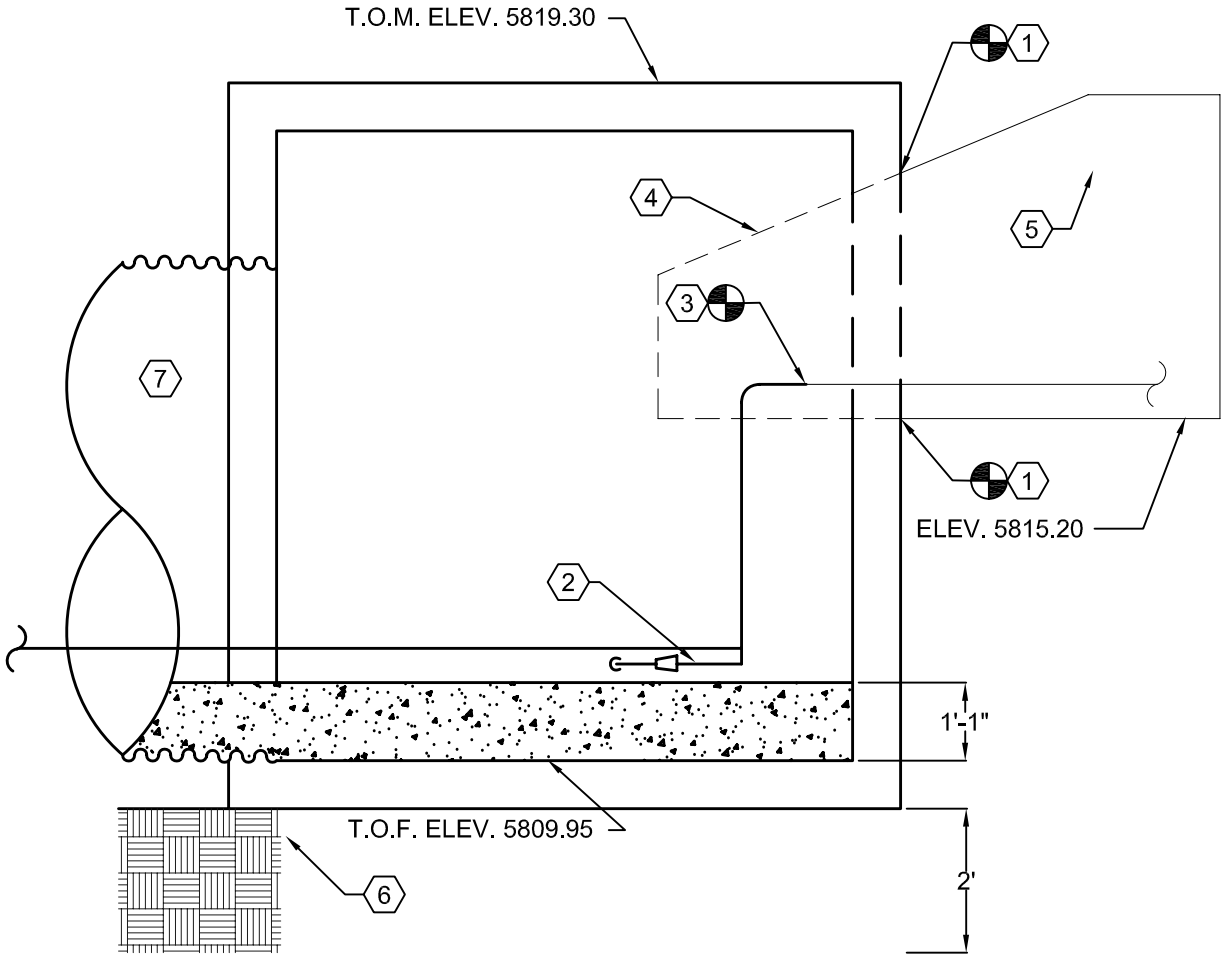
MANHOLE #3 PIPING PLAN

SCALE: 3/8" = 1'-0"

N

MECHANICAL ADDENDUM #1

ME503

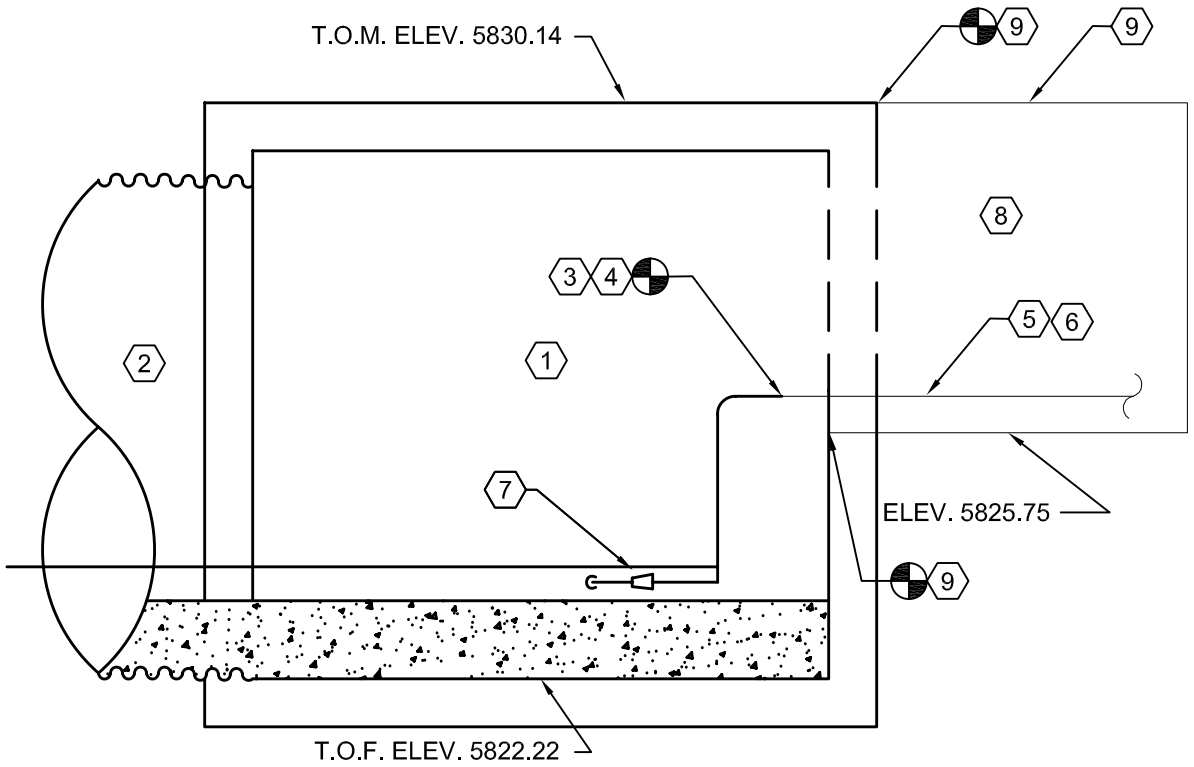


SHEET NOTES:

1. SAW CUT NEW OPENING INTO EXISTING MANHOLE #4 FOR CONNECTION OF EXISTING TUNNEL TO MANHOLE #4.
2. STEAM TRAP SEE DETAIL A4/ME504.
3. CUT EXISTING PIPING AND CONNECT TO NEW 3" STEAM AND 1-1/2" CONDENSATE. REMOVE EXISTING PIPING NOT USED FROM MANHOLE.
4. REMOVE THIS SECTION OF EXISTING TUNNEL.
5. EXISTING TUNNEL/ SHALL REMAIN.
6. SEE DETAIL D1/ME503 FOR STANDARD FILL.
7. NEW 7'-0" CSP TUNNEL TO MANHOLE #3.

C5 PIPING ELEVATION MANHOLE #4

SCALE: 3/8" = 1'-0"

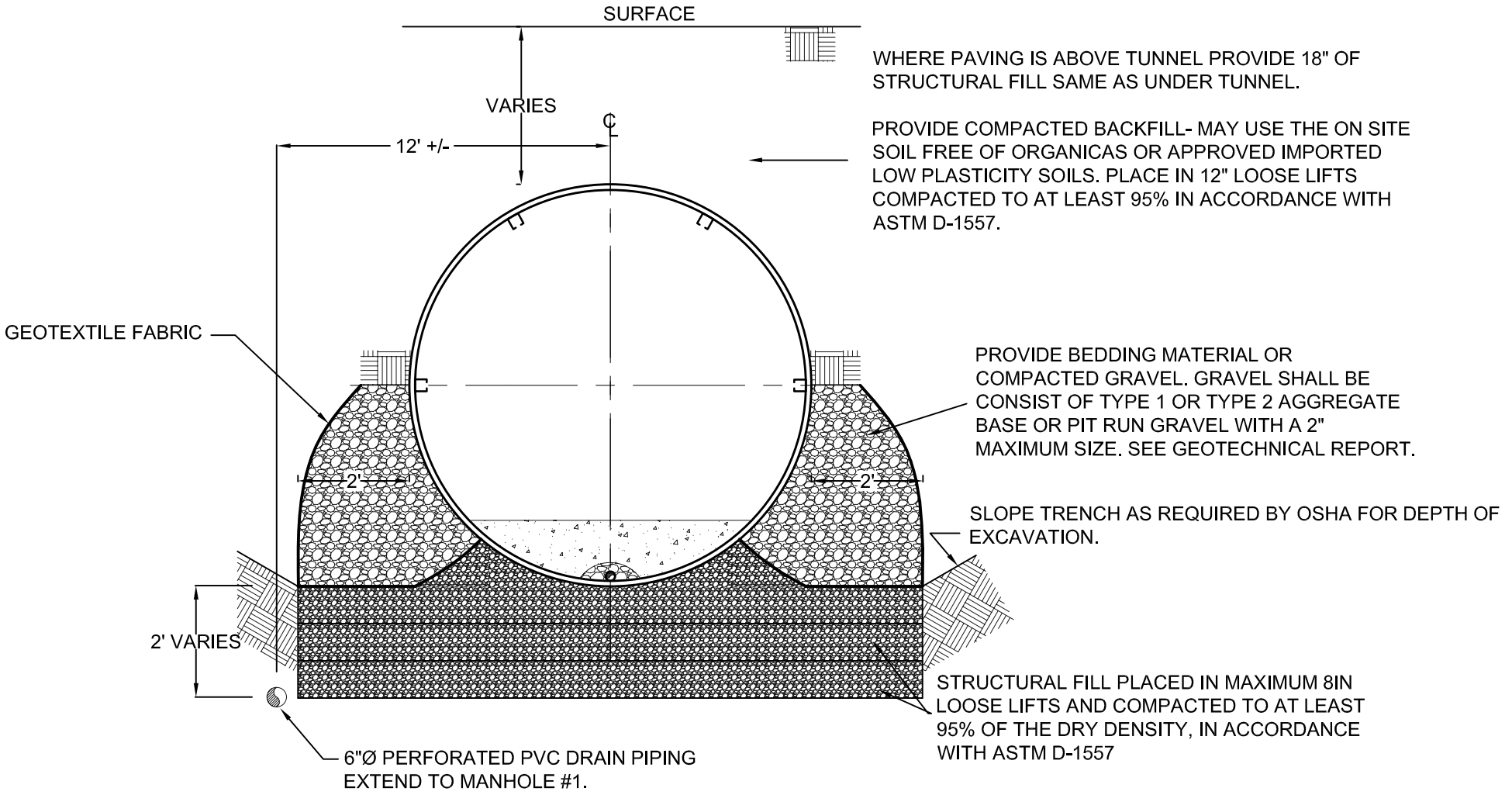


SHEET NOTES:

1. MANHOLE #6 - 8'-0"x 8'-0".
2. NEW 7'-0" CSP TUNNEL.
3. NEW 3" STEAM SUPPLY PIPING.
4. NEW 1-1/2" CONDENSATE RETURN PIPING.
5. EXISTING 3" STEAM PIPING.
6. EXISTING 1-1/2" CONDENSATE RETURN PIPING.
7. STEAM TRAP, SEE DETAIL A4/ME504.
8. EXISTING TUNNEL FROM ELC. BLDG.
9. CONNECT EXISTING TUNNEL INTO NEW MANHOLE #6.

C5 PIPING ELEVATION MANHOLE #6

SCALE: 3/8" = 1'-0"



D1

TUNNEL SECTION FILL REQUIREMENTS

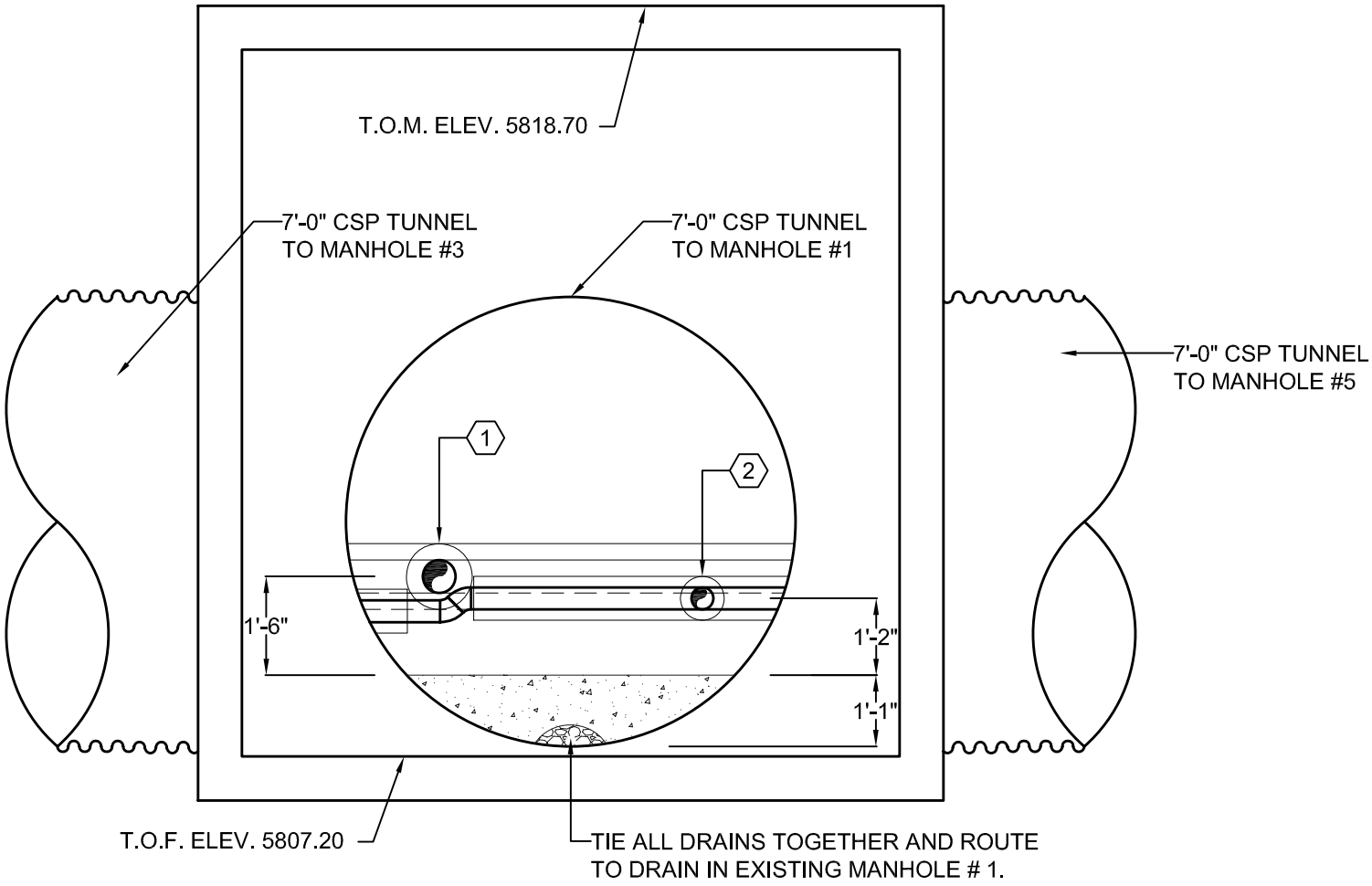
SCALE: NONE

MECHANICAL ADDENDUM #1

ME503

SHEET NOTES:

1. 6"Ø STEAM PIPING WITH 3" THK INSULATION.
2. 4"Ø CONDENSATE RETURN WITH 2" THK INSULATION.



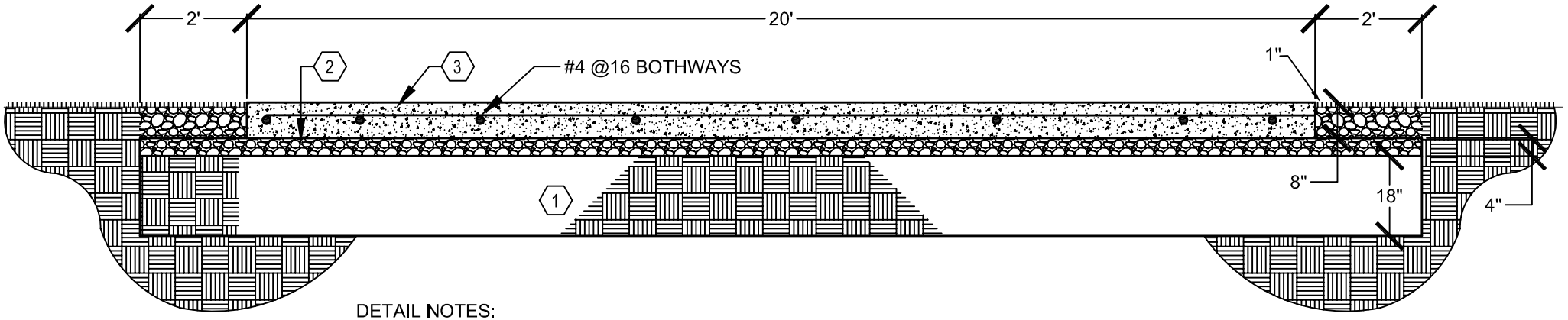
LOOKING EAST
PIPING ELEVATION MANHOLE #2

D5

SCALE: 3/8" = 1'-0"

MECHANICAL ADDENDUM #1

ME503



DETAIL NOTES:

1. PROVIDE 18" OF COMPACTED STRUCTURAL FILL MINIMUM. COMPACTED LIFTS TO AT LEAST 95% OF THE DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.

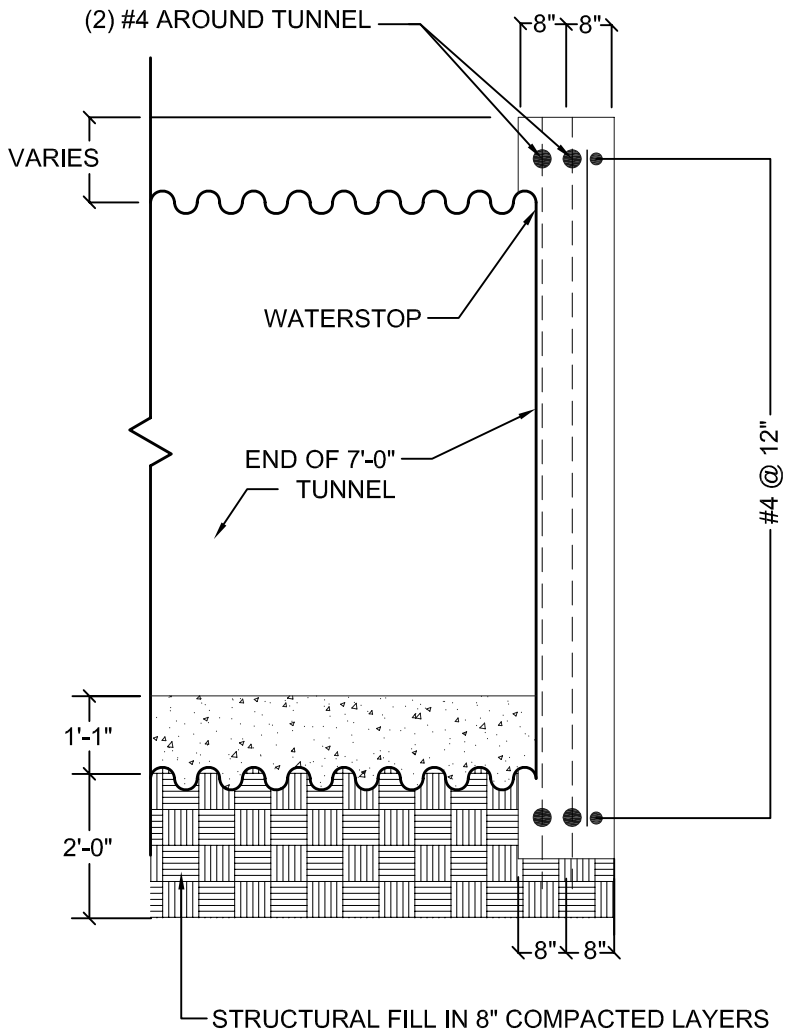
2. 4" COMPACTED LAYER OF COMPACTED GRAVEL. GRAVEL MAY CONSIST OF TYPE I OR TYPE II AGGREGATE BASE, OR PIT RUN GRAVEL WITH A 2- INCH MAXIMUM PARTICLE SIZE AND NO MORE THAN 12% FINES PASSING THE NO. 200 SIEVE.

3. 8" THICK REINFORCED CONCRETE FIRE LANE.

A2

NEW SIDEWALK AND FIRELANE DETAIL

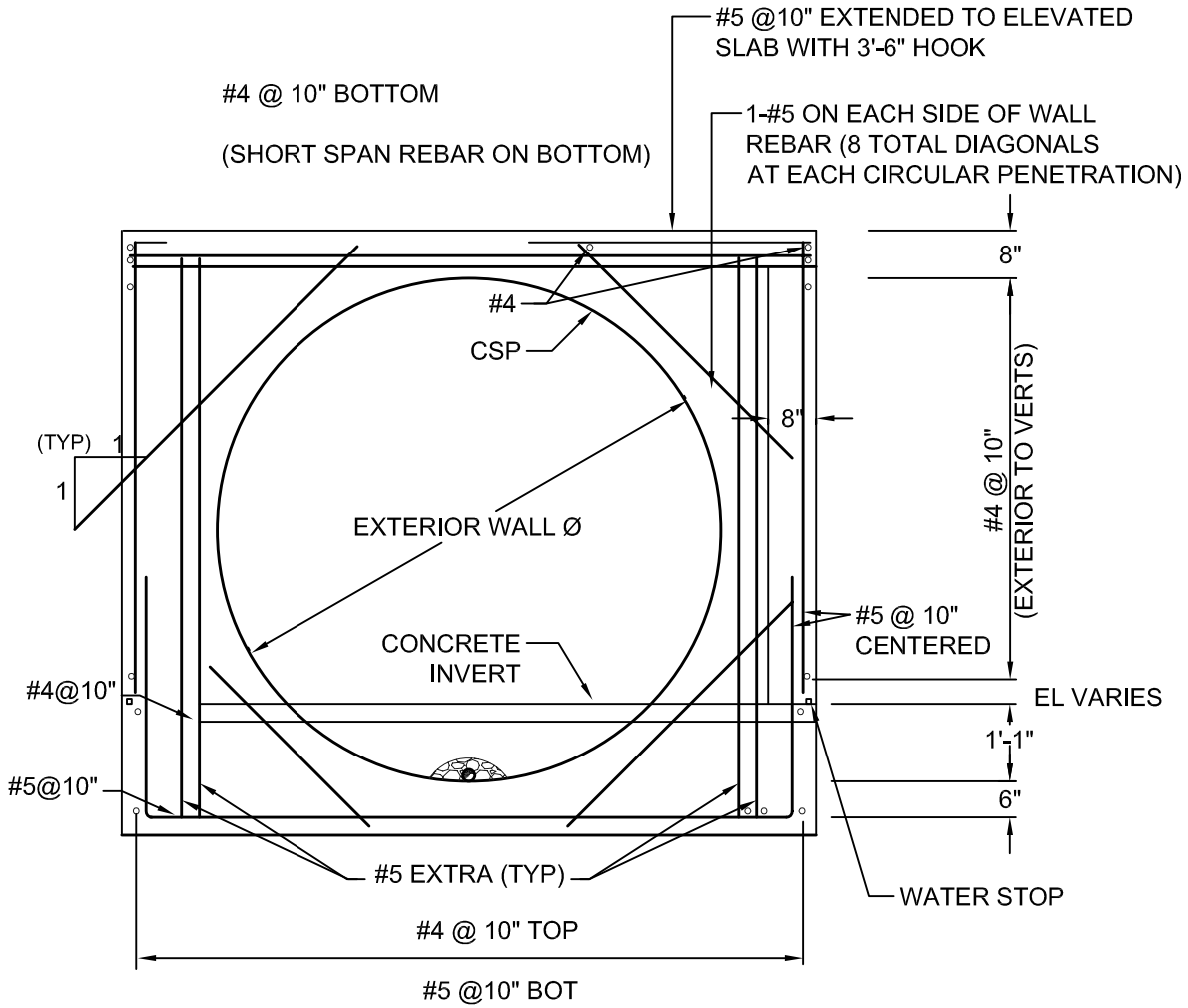
SCALE: NONE



A5

TUNNEL CAP DETAIL

SCALE: 3/8"=1'-0"

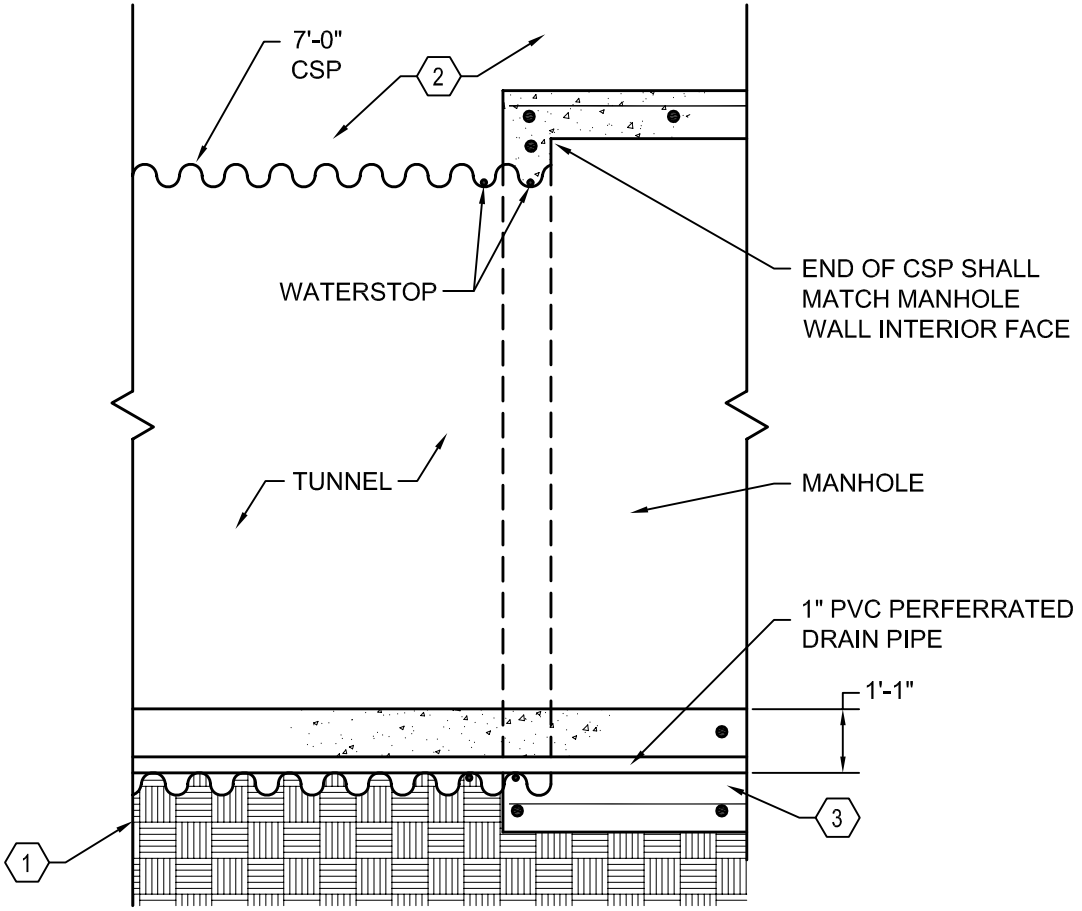


SHEET NOTES:

1. TYPICAL ELEVATION OF TUNNEL PENETRATION INTO MANHOLES.

C1 MANHOLE ELEVATION DETAIL

SCALE: 3/8"=1'-0"



SHEET NOTES:

1. STRUCTURAL FILL PLACED IN MAXIMUM 8 INCH LOOSE LIFTS AND COMPACTED TO AT LEAST 95% OF THE DRY DENSITY, IN ACCORDANCE WITH ASTM D-1557. TOTAL DEPTH OF STRUCTURAL FILL IS 24".
2. PROVIDE COMPACTED BACKFILL ABOVE BEDDING MATERIAL OR GRAVEL, SEE DETAIL D1/ME503.
3. SEE MANHOLE SECTION D1/ME504.

D5 TYPICAL MANHOLE PENETRATION

SCALE: NONE